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Cutting Nature to Fit: Urbanization, neoliberalism and biodiversity offsetting in England

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Abstract

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Keywords: offsetting, economic crisis, neoliberal conservation, extended urbanization, right to the city, right to nature, urban political ecology

1. Introduction

‘Our economy cannot afford planning processes that deal with biodiversity expensively and inefficiently or block the housing and infrastructure our economy needs to grow. Fortunately, as the Ecosystem Market Task Force and Natural Capital Committee have set out, there is a way we can make our planning system even better for the environment and developers: biodiversity offsetting’

Owen Paterson, Former Secretary of State for the Environment (Defra, 2013)

‘If you are a developer offsetting is a wonderful “get out of jail” free card’.

STOP HS2 campaigner

Since the aftermath of the 2008 financial crash, governmental policy in the UK has moved decisively to reduce public budgetary deficits, ushering in an era of prolonged austerity. The attempt to complete the ‘unfinished neoliberal revolution’ started over three decades before (Hodkinson and Robbins, 2013: 4), instituted, in line with similar developments across the globe (Cahill, 2011, Harvey, 2011, Peck et al., 2012), renewed privatization and marketization of public services, public property and natural resources, fiscal austerity and socially regressive cuts in public spending and welfare (Institute for Fiscal Studies, 2010). This trend has continued and intensified. According to the rhetoric of both the Coalition Government elected in 2010[1] and the Conservative Government that followed it in 2015, the way out of the economic recession was to be found in a combination of fiscal austerity and initiatives to stimulate economic growth through further urban development, especially large housing and infrastructure projects.

In the UK, the housing market was considered as one of the biggest casualties of the 2008 global economic crisis. Not surprisingly, both the Coalition government and the Conservative Government identified the rapid delivery of housing as a key priority[2]. To this end they put pressure on local authorities to release more land (Lockhart, 2015) while emphasizing the urgency to cut 'red tape' and remove 'unnecessarily complex regulations'[3]. This was also expected to facilitate the approval of infrastructure 'megaprojects'[4], such as railways, highways, and airports. Such schemes, and the role of private sector contractors in design and construction, are characteristic of neoliberal capitalism (Flyberg, 2003, Geddes, 2012) and in the context of the crisis, their transformation into an asset class that can yield substantial profits has intensified substantially (Hildyard, 2012).

The UK applied the usual nostrums of neoliberal economics to urban affairs. The intensification of neoliberal urbanization (Brenner and Theodore, 2002, Harvey, 2012, Leitner et al., 2007, Swyngedouw et al., 2002) meant an extensive deregulation of land and property markets, the minimization of state interventions in planning and environmental legislation, further fiscal constraints and budgetary cuts upon local governments and cities, and an increasing reliance on private means of sustaining social reproduction.

It is within this context that biodiversity offsetting emerged in the UK[5], as a measure at the heart of the new governmental regime for development and environmental protection set out in a series of key policy documents (e.g. Defra, 2011, 2013, NPPF, 2012). The government defined biodiversity offsets as 'conservation activities that are designed to give biodiversity benefits to compensate for losses - ensuring that when a

development damages nature (and this damage cannot be avoided or mitigated) new nature sites will be created'[6].

Biodiversity offsetting is a paradigmatic neoliberal policy and part of the wider shift towards market-based conservation (Lockhart, 2015, Spash, 2015, Sullivan, 2013). Offsetting seeks to compensate losses to biodiversity in one place (and at one time) by creating equivalent gains elsewhere (Apostolopoulou and Adams, 2017). Its potential to facilitate the relocation of environmental compensation across space and time in line with the interests of developers has brought together major industries (particularly housing, mining, infrastructure, construction, oil and gas), governments, environmental brokers, investors, and NGOs (ten Kate et al., 2004) across the globe. Similarly, its adoption in the UK in the aftermath of the 2008 financial crash was directly related to the Coalition government's recognition of the need to free up environmentally valuable land for urban development (Defra, 2013[7], HM Government, 2013) and address urbanization's increasing environmental impacts (Latimer and Hill, 2007) simultaneously. The idea was that offsetting would be the end point in a 'mitigation hierarchy' that developers should follow only be undertaken once all possible measures to avoid or mitigate impacts had been taken (BBOP, 2009, Defra, 2013). However, experimentation with the policy triggered debates across the country on its scientific base and its effects on development decisions. Some cases, such as the Lodge Hill housing development in Kent or the new HS2 London-Birmingham train line, raised strong opposition that directly challenged the government's new 'win-win' rhetoric[8].

Critical scholars have so far analyzed the role of Defra offsetting metrics in the construction of exchangeability (Sullivan, 2013); the ideological dimensions of struggles over offsetting (Sullivan and Hannis, 2015); its use in the English planning system (Hannis and Sullivan, 2012) and the difficulty of delivering the promise of reconciling development and conservation (Lockhart, 2015). Here, by drawing on fieldwork across England we seek to contribute to existing analyses by offering a Marxist historical-geographical analysis (c.f. Harvey, 2011) of biodiversity offsetting's emergence and operation. Our starting point is the way the adoption of biodiversity offsetting relates to government responses to the economic crisis, and their aspirations for large-scale housing and infrastructure projects. By paying attention to the interplay between biodiversity offsetting, urbanization and the neoliberal reconstruction of conservation, we aim to extend the focus of the neoliberal conservation literature from the role of offsets as ecological 'commodities' (Büscher et al., 2012, Sullivan, 2013) to the way offsetting is used to support the production of space(s), place(s) and nature(s) in line with contemporary patterns of capitalist urban growth. In particular, we explore the ways in which biodiversity offsetting operationalized new ideas about non-human nature as a stock of biodiversity, how it allowed planning decisions to be streamlined to support extended urbanization, how it contributed to foreclosing public debate about controversial urban development projects, and how it reterritorialized nature-society relationships. We also consider its social and class implications by showing how the hegemonic rhetoric of offsetting, as primarily shaped by governments and the private sector, has been contested by local communities and environmental activists.

By drawing attention on the way offsetting links the exploitation of non-human nature in the city and in the countryside and by adopting a Lefebvrian conception of urbanization, we aim to contribute to recent attempts to bring closer Urban Political Ecology and Political Ecology (e.g. Arboleda, 2015). We furthermore suggest that struggles against offsetting (even when apparently 'rural') may reflect the emergence of a new emancipatory politics that would encompass the 'right to nature', which we define as the right to influence and command the processes by which nature-society relationships are made, remade and disrupted by generalised urbanization and economic development, as a key element of struggles for the 'right to the city' (Harvey, 2008, 2012, Lefebvre, 1968, 1996).

2. Theoretical framework

'Under the banner of progress, capitalism attempts the urbanization of the countryside'

Smith (2010: 71)

The introduction of biodiversity offsetting in England needs to be understood in the context of processes of urbanization. The UK is one of the world's most urbanized countries mainly due to its early industrial development, with 82 per cent of the total population urban[9] despite a substantial counter-urbanization movement in recent decades. In linking biodiversity offsetting and urbanization, we are reflecting long-standing calls for an integrated analysis of the linked political economies of urban and rural space (Hoggart, 1995, Urry, 1995), and on the importance of links between urban and rural nature and its conservation (Matless, 1998, Sheail, 1981).

We understand the term 'urban' in relation to the theory of capital accumulation and thus we use it to refer to the broad process of the creation of a material physical infrastructure for production, circulation, exchange and consumption (Harvey, 2012), and as such not confined to 'cities' (Harvey, 1996a). We follow the Lefebvrian process-oriented view of 'generalised urbanisation' (Lefebvre, 1970)[10], to describe the multiscalar production and reproduction of the built environment regardless of population size or density (see also Arboleda, 2016, Angelo and Wachsmuth, 2015, Brenner and Schmid, 2015). Crucially, as Brenner (2013: 87) argues, generalised or extended urbanization involves new, increasingly large-scale morphologies that 'perforate, crosscut, and ultimately explode the erstwhile urban/rural divide'.

Capitalist urbanization has always rested on uneven socio-ecological interactions and transformations. Policies that promote urban development and growth favor speculative capital over people and nature; what is defined as 'success' in terms of capital accumulation can have significant negative impacts on people (apart from a privileged class) and the environment (Harvey, 2012). The way nature is produced through urbanization is the focus of 'urban political ecology' (Heynen et al., 2005; Loftus, 2012; Swyngedouw, 1996). The field has been strongly shaped by Marxist logic, especially by the work of David Harvey (1996b) and by Neil Smith's 'production of nature' thesis (2010) and has significantly contributed to urbanizing discussions of social-ecological metabolism (*Stoffwechsel*) (Heynen, 2013, Smith, 2005; see also Foster, 1999, Marx, 1894). As Swyngedouw (2015: 609-610) argues, the key issue is 'the capitalist form of urbanization of natures: the process through which all manner of nonhuman "stuff" is socially mobilized, discursively scripted, imagined, economically enrolled (commodified), and physically

173 metabolized/transformed to produce socio-ecological assemblages that support the
174 urbanization process'.
175
176 Urban political ecology has approached the city as the key terrain for exploring the
177 co-production of the social and the natural. However, in the context of generalised or
178 extended urbanization, the way nature is produced through capitalist urbanization
179 becomes increasingly relevant for many places that extend beyond the limits of the
180 traditional 'city', in the form of infrastructure, housing, industrial or commercial
181 development (Smith, 2010). Indeed, erstwhile 'rural' or 'wild' spaces are increasingly
182 socially and environmentally transformed to serve the growth imperatives of an
183 accelerating urbanization which extends beyond the limits of the 'historical central
184 city' in the form of new 'outer' and 'edge' cities in what were formerly suburban
185 fringes, in green field or rural sites and city regions (see Brenner and Schmid, 2015).
186 These processes have profound implications for the implicated socionatures, reflected
187 in recent arguments about the importance of urbanization for wider political ecologies
188 (Arboleda, 2016, Angelo and Wachsmuth, 2015).
189
190 In order to understand the way that biodiversity offsetting influences the social-
191 ecological transformations that urbanization brings about, both within and also
192 beyond the 'city', it is necessary to consider its origins and characteristics. On the one
193 hand, the existence of the offset site shows that nature is no longer an 'open frontier'
194 for capitalism (Katz, 1998). Developers have to compensate for the destruction of
195 non-human nature by re-creating nature somewhere else. However, the way
196 compensation is understood and calculated in offsetting (Apostolopoulou and Adams,
197 2017), along with the fact that hitherto 'protected' natures or ecosystems of high

198 biodiversity value are not excluded from the process, corroborates the contradictory
199 and ephemeral character of conservation under capitalism (Apostolopoulou and
200 Adams, 2015). On the other hand, offsetting also shows that mainstream solutions to
201 the environmental contradictions of capitalism tend to reproduce the same logic that
202 created these contradictions in the first place. The increasing reliance on offsetting
203 policies (both carbon and biodiversity) is a key part of the wider shift towards a
204 'green economy' (or 'green' capitalism), in the sense of the systematic application of
205 market logic and market-based mechanisms to environmental management and
206 governance (Corson et al., 2013). In the logic of market environmentalism, the
207 delivery of inadequate compensation is the result of 'market failure' (Bayon et al.,
208 2008), leading to moves to place an economic value on biodiversity and ecosystem
209 services. Biodiversity offsetting is also tightly interwoven with the deregulation and
210 the market friendly reregulation of environmental and planning legislation, both key
211 processes in the neoliberalization of non-human nature (Castree, 2008).
212
213 The way urbanization and offsetting intertwine is also important from the perspective
214 of social and environmental struggles. The 'right to the city' (Harvey, 2008, 2012,
215 Lefebvre 1968, 1996, Purcell, 2002), defined as the right to claim some kind of
216 shaping power in fundamental and radical ways over the process of urbanization
217 (Harvey, 2012), has been inextricably linked to what kind of relationship to nature we
218 desire (Harvey, 2008). Fights for access to public green spaces have always been at
219 the core of many urban struggles. As urbanization extends beyond the limits of the
220 traditional city and policies like biodiversity offsetting are being launched to address
221 its increasing environmental impacts, new close links between urban and rural
222 struggles are being created for three main reasons. First, offsetting explicitly links the

dynamics of urban expansion into the countryside to processes of the loss and creation of nature beyond the traditional city. Second, offsetting can be applied to development in rural areas in ways that are tightly linked to processes of urban production and consumption (e.g. fracking or mining). Third, offsetting can link the survival of public green spaces within existing urban boundaries to the survival of nature on the urban fringe or beyond. 'Offsite compensation' means that the development site can be an urban place and the offset site a rural place, or the reverse (although this is less common).

3. Methodology

Our analysis draws on 62 semi-structured interviews at national level, and in seven selected case studies (Table 1): i) 18 respondents involved in the establishment of biodiversity offsetting at national level, including conservation scientists, environmentalists, conservation bankers, consultants, and governmental officials; ii) 27 respondents from local authorities, environmental administrations, private sector organizations, businesses, and NGOs; and iii) 17 respondents from civil society groups (Table 1). In line with our research objectives our aim was to select case studies where the link between urbanization and the introduction of offsetting was clear and also on areas where significant conflicts had arisen over the implementation of the proposed development and the delivery of compensation through offsetting. We thus included two of the Defra pilots and five other prominent projects (Table 1).

[TABLE 1]

Our interview guide consisted of two main parts: a general set of questions about offsetting that was common for every interviewee and a more detailed set referring to a specific case study. The general set was divided into five categories: (i) biodiversity

offsetting policy in England and Defra's consultation document; (ii) the relationship between conservation and urban development and the role of offsetting; (iii) offset metrics and the equivalence of ecosystems and places; (iv) the implementation of offsetting in practice; (v) and questions about offsetting, conservation banking and market-based conservation. The more detailed set of questions explored how exactly offsetting has been implemented in each case study, the actors involved, the criteria used for the designation of the offsets, how offsetting influenced the planning process as well as issues related to rights of way, access to nature, and public participation.

Contacts were identified from reports and the Internet, and interviewees found through snowballing. Interviews were mostly with one person, some pairs of interviewees; seven were group interviews. Interviews lasted from 40 to 150 minutes, with one hour being the norm. All interviews were tape-recorded and transcribed verbatim. Notes were taken in parallel, and backed up by document analysis, and participation in local meetings. Verbatim interview quotes used in this paper are identified by letter codes (Appendix 1).

4. Urbanization, neoliberalism and biodiversity offsetting in England

4.1. Biodiversity offsetting, neoliberal conservation and urban development: reframing non-human nature as a movable stock of biodiversity units

Even though the first explorations of the concept of biodiversity offsetting started under the Labour government elected in 2007, as part of the discussions about the creation of new biodiversity markets (Adams et al., 2014, Defra, 2007, Lockhart, 2015, Treweek et al., 2009), it was the Coalition government elected in 2010 which brought forward more specific proposals. The most important policy initiative was the

introduction of an experimental two-year scheme in 2012 consisting of six pilot areas in England (Devon; Doncaster; Essex; Greater Norwich; Nottinghamshire; Warwickshire, Coventry and Solihull). Construction companies, extractive industries, and ecological consulting firms were key participants to the scheme along with local authorities and NGOs (Carver, 2015) manifesting the willingness of the Government to make clear offsetting's pro-development character. Experimentation with offsetting was not, however, limited in the pilots: in many other areas, developers began testing its potential to compensate for the impacts of urban development projects.

The same year, the Environment Bank (EB), the first private compensation brokering and consultation company in the UK[11] and a keen supporter of offsetting, launched the Environmental Markets Exchange (EME) to provide a 'one-stop-shop' for the registration of offset sites and the measurement of their credit value (Environment Bank, 2012). The Environment Bank had strong links with the State (its founder was a Board Member of Natural England and of the Joint Nature Conservation Committee) and the Government:

> 'During the early part of 2009 we contacted the Conservative Party to provide advice on 'biobanking' […] The reception we were given was tremendous and the concept 'Conservation Credits' found its way into the Conservative Party manifesto (Environment Bank 2010[12])'.

The Bank hoped that the EME would pave the way for an offsetting market and formed partnerships with AB Agri (the agricultural division of Associated British Foods) to identify more offset sites and with Shell Foundation to pilot the use of credits[13].

A key step in the attempt to reframe non-human nature as a movable stock of biodiversity was the publication of a government Green Paper on biodiversity offsets (Defra, 2013) in 2013. This set out a metric whose scope was to quantify habitat value on the basis of distinctiveness, quality and area in hectares, and calculate it in 'biodiversity units' (Table 2). It was hoped that the conversion of an assessment of overall biodiversity into 'units' would emphasize 'biodiversity per se' rather than the value of the benefits flowing from biodiversity, which was considered to be 'highly geographically specific' and difficult to measure (HM Government, 2013: 9). This was in line with the fact that offsetting's primary aim was to keep the overall 'stock' of biodiversity constant by achieving a quantitative balance of biodiversity lost due to development and 'saved' through offsetting echoing the new emphasis of UK conservation on the maintenance of the country's 'natural capital'.

[TABLE 2]

The aim to use standardized and strictly quantitative descriptions of biodiversity, along with Defra's constant search for 'simplicity' and 'efficiency', undermined even the Scoping Study on which the metric had been based:

> 'The scoping report was a very preliminary version. It was developed incredibly fast and there's been no follow-up to actually underpin it and test the metric itself. All the pilots were concerned more with how to make the metric attractive to developers rather than actually look at it' (Interview CE1).

Indeed, Defra (2013) promised that its metric would allow complex ecosystem processes to be measured 'in as little as 20 minutes' creating serious concerns about the quality of the whole process:

> 'Firstly we had to assess the proposed offset site. We couldn't do it at the optimal time, we had to do it in a very sort of narrow window because the argument was that

> the developer was losing money as time was passing by. So it may look like it might be suitable but you don't know. There may be a protected species on it, there may be something good there already, you don't want to change it, who knows?' (Interview ENGO1).

The short time frame within which calculations had to be made to justify the use of offsetting, along with the fact that the metric was based on several problematic assumptions, including considering habitat area as a proxy of unmeasurable biodiversity, received strong criticism:

> 'This turns up to be a very crude way of measuring impacts. There's nothing about species or connectivity in the metric, there's nothing about edge effects. […] In one reserve recently there was a developer building a block of flats. Literally the reserve is here and the block of flats is just next to it. And as far as biodiversity offsetting goes because it's outside of the footprint of the development there would be no impact' (Interview CS2).

Several interviewees provided evidence on the subjectivity involved in the offsetting process mentioning cases where interpretations of what constituted an 'acceptable' trade, or whether it was technically feasible to restore habitats lost due to development differed substantially. Characteristic examples included whether ancient woodlands on the HS2 train route could be compensated by planting new woodlands and whether nightingale breeding habitat could be successfully recreated to compensate for losses from the housing development at Lodge Hill.

Worries were also expressed about questions of local distinctiveness, and the possibility that balancing losses and gains at a national scale would lead to the creation of standardized habitats everywhere, and possibly the cheapest ones to

recreate. In Lodge Hill, for example, the offset metric calculation showed that nature to be lost was of high biodiversity value and that offsetting would demand extensive land acquisition and management. Developers initially proposed to use offsetting at the time of seeking planning permission, but they subsequently abandoned it because of the cost:

> '…We used the Defra metrics and the figures we were getting were higher and higher and higher - our clients just said "well this is just getting ridiculous and out of hand, we need a more realistic, common sense approach to the offsetting of this' (Interview CE2).

This opportunistic behavior of developers was mentioned by several interviewees as a key reason for the failure of many of the Defra pilots:

> 'In a sense you had to convince developers that impact assessments would be straightforward and fast otherwise they could see no scope in getting involved. I think this was why the Environment Bank launched its calculator and its guidelines for developers; it makes ecology to look like super-easy accounting' (ENGO2).

For some interviewees, the representation of biodiversity in terms of simply defined, priced units was offsetting's strong asset since it provided a basis for the economic valuation of biodiversity and ecosystem services. For others, this was deeply problematic since it was seen as equating the value (meaning the use value) of nature with a price (the exchange value) deepening the commodification and privatization of non-human nature:

> 'Putting a price to nature or creating an Environment 'Bank' means that someone could make a massive business out of biodiversity offsetting. But nature is not a commodity, you cannot buy nature – because who does nature belong to at the end of the day? It belongs to everyone' (Interview HS1).

4.2. Streamlining planning through biodiversity offsetting to support extended urbanization

A key part of government plans for promoting urban development post 2010 was the restructuring of the planning system. The National Planning Policy Framework (NPFF) introduced in 2012 included a 'presumption in favour of sustainable development' which would run as 'a golden thread' through both plan- and decision-making (NPFF, 2012: 3, 4, 13, 28, 37, 46). This presumption was described 'as a way of cutting back on red tape and endless planning documents to focus on what people care about: local roads, schools and homes that meet their needs'[14]. In all our cases studies, this was translated on the ground as a clear encouragement of housebuilding and other forms of urban development, including large infrastructure projects (see Table 1). This explicit prioritization of further urban growth inevitably involved severe environmental impacts, including alterations to the Green Belt[15] boundaries (as happened for example in our case study in North Tyneside, on the grounds that the 'objectively' assessed housing needs, constituted 'an exceptional circumstance'[16]), and expansion of urban development into greenfield areas and the countryside. In Kent, respondents commented:

> 'Only during the last month we've got a bid on a green valley which is an area of local landscape importance for about 480 houses. And just last week there's another one for about the same number, 470 …. on some green farmland' (Interview LH1).
>
> &
>
> 'Developers already held permission to build almost 7,000 houses yet they were sitting on them because they're in brownfield sites and they don't want to build them because it would be much better getting Lodge Hill, a greenfield site' (Interview LH2).

Biodiversity offsetting was understood by all our respondents as an integral part of the above reforms:

> 'Offsetting clearly relates to the new Local Plans, to all the land release that the government plans to enable; the greenbelt release sites that are coming up. Because there would be lots of ecological issues on those that they think can be achieved from offsetting' (Interview LA1).
>
> &
>
> 'The local plan was almost a blank cheque being written for development. The developers saw it and thought 'get in, we can do that'. Three speculative applications came up immediately - all of them on sites that are environmentally sensitive and all of them mentioned biodiversity offsetting' (Interview NT1).

The government's view of controls over planning as 'environmental red tape' and 'unnecessary bureaucracy', along with their belief in markets instead of state regulation, rendered neoliberal conservation policies such as offsetting particularly attractive. The policy was explicitly framed as capable of making the process of granting planning permission and delivering biodiversity requirements more development-friendly showing that the government's main concern was to unblock development from environmental constraints (see also CIWEM, 2013[17]) and to legitimize the expansion of urbanization into rural areas under the banner of 'No Net Loss'.

The Environment Bank (EB) and the Ecosystem Markets Task Force (EMTF) took an almost identical line of argument and tried to attract developers to offsetting by reassuring them that the whole process could save them both time and money through

reduced risk and uncertainty, streamline planning approval, enable access to land and bring reputational benefits (EMTF, 2013, Environment Bank, 2014, 2016a). Developers were advised that any upfront costs would be factored into residual land values which would be substantially uplifted as a result of planning permits (see also Duke et al., 2013, EMTF, 2013).

Not surprisingly, most interviewees saw such streamlining of planning approval as offsetting's main purpose. As a local authority planner with more than two decades of experience put it:

> 'It seemed the government proposed offsetting to loosen up, cut away the constraints of planning and the terrible red tape that we, the enemies of enterprise (laughing), impose' (Interview LA2).

Similarly, an interviewee from a conservation NGO commented:

> 'During initial discussion on offsetting as an innovative, novel, approach, we were suddenly faced with the fact…. that for many, including the Treasury, this was not at all about compensation, it was about speeding up development' (Interview ENGO3).

The role that the UK government expected offsetting to play in supporting urban development, and the expectations it created in interested parties, are well demonstrated by the Essex Pilot. A member of the Steering Committee explained that Essex was selected as a pilot because it was expected that the South of the County would be the focus of significant large-scale housing and industrial developments. The County Council, advised by the Environment Bank, proposed a broker-led scheme:

> 'We got a pilot officer paid for by the Environment Bank, that was quite unusual. Her job really was as a kind of marketing exercise to encourage developers to try

offsetting, speak to planners to try and get them familiar with the process and landowners to see if they might like to register offset sites' (Interview LA3).

The critical attraction for developers was that:

'…offsetting would save them money in simplifying the process and reducing those meetings with the planning authority' (Interview LA4).

Offsetting's pro-development character was also a key element of the offsetting strategy in the Warwickshire Pilot, where the main goal, a conservation broker explained to us, was to convince developers that 'a balanced playing field' for them could be created (Interview CB1).

Crucially, offsetting is a form of compensation for loss that cannot be avoided or mitigated on site and thus the NPPF (2012, para 118) sees it as an option that may avoid refusal of permission[18]. Local community opponents of attempts to use offsetting to respond to an initial refusal of planning permission explained to us that offsetting played into the hands of developers, giving them 'an excuse to do what they want and then use biodiversity offsetting as a tool to compensate afterwards' (Interview CG1).

The way in which offsetting can be used to ease the granting of planning permission is shown by the application by Bellway Homes to North Tyneside Council for 366 executive homes at White House Farm, West Moor, Killingworth. This was refused in April 2012, in part due to its adverse indirect impacts on biodiversity in the neighboring designated wildlife corridor and Gosforth Park SSSI, as well as an adjacent Site of Local Conservation Interest. The applicant appealed, citing a scoping report prepared by the Environment Bank that the creation of an offset site would be sufficient to address the extensive biodiversity impacts. In September 2013, the

Secretary of State granted planning permission, subject to a condition specifying the offset. As one representative of a local NGO explained to us:

> 'When we walked into the room the first words the developers said was: 'We are not here to talk about a 106 agreement, that is something that is not on the table, we are going to go with the offsetting'. We were surprised by their insistence but then we thought they felt that they could gain planning permission by shifting the discussion around a new, powerful (in their minds) idea. But also because no one had really done it before they could almost set the rules and there was no real guidance. And this is what happened: their application gained approval due to the offsetting proposal' (Interview ENGO4).

Sometimes, the very existence of offsetting led to an underuse of the mitigation hierarchy's earlier stages. The case of housing development at Lodge Hill was repeatedly mentioned during our interviews as an example of this:

> 'Our concern is that the Government tried to circumvent the common mitigation hierarchy and make it easy for developers to proceed on the basis that they could compensate. This is what happened in Lodge Hill. The decision as to whether or not you should offset is entirely dependent on whether or not you can avoid the harm but they never seriously discussed that. And the NPPS also says the first step is to examine the alternatives, but they haven't done that either. So, how a council can vote to approve something when all that information is missing?' (Interview ENGO5).

However, the strategic use of offsetting to gain permission did not always succeed. In the Coventry Gateway, Warwick Council favoured development and suggested alterations of the Green Belt to allow it, accepting that the developer's proposed offset would offer sufficient compensation. However, the Secretary of the State called in the

proposal and rejected it, *inter alia* on the grounds of its severe environmental impacts. The Secretary recognised that offsetting could not fully address development impacts, including the permanent loss of Green Belt, and the loss of the intrinsic character of the countryside. This was one of the decisions which vindicated the struggle of local residents opposing the development on the grounds of its economic, environmental, public health and social impacts.

4.3. Foreclosing the public debate on the impacts of controversial urban development projects

The NPPF also reflected the government's political agenda of localism (HM Government, 2010, Maclennan and O'Sullivan, 2013) by reinforcing the status of Local Plans. Local Plans set out 'a vision and a framework' for future development that frame consideration of individual planning applications[19]. The Government hoped that a tight link would be established between local interests and support for urban growth, an effect of austerity localism (Apostolopoulou et al., 2014, Featherstone et al., 2012). The key claim was that a combination of autonomy and specific incentives would unleash a desire to enable development (Cowell, 2013, Conservative Party, 2010). As Allmendinger and Haughton (2013) argue, the transition from spatial planning to localism, constitutes a form of, and contributes to, neoliberal spatial governance. The 'new' neoliberal vision was not very different from Thatcher's 'forged consent' through the cultivation of a middle class that relished the joys of home ownership, private property, individualism, and the liberation of entrepreneurial opportunities (Harvey, 2005).

Biodiversity offsetting formed part of wider processes of deregulation of planning and environmental legislation, decentralization and pro-market localism (Allmendinger and Haughton, 2013, Hannis and Sullivan, 2012) and clearly favored private funding for conservation and public-private partnerships. As became obvious from our interviews, in the context of prolonged austerity and economic recession and in the face of decreasing public budgets and increasing competition, many local councils were positive towards the idea of finding a way to speed up development while were also hoping to benefit from increased investment from offsets (Apostolopoulou, 2016).

Using such arguments, the government hoped to create a broad consensus on the implementation of offsetting. The rhetoric that 'we all want development' was continuously used by offsetting's supporters during our interviews along with the acceptance of urban development as inevitable:

> 'Is the railway going to be built? Yes. Is it going to destroy ancient woodland? Yes. Can we do something about it? No. We all want development but we need to make sure that we will hit those biodiversity targets that we keep setting. Biodiversity offsetting can do exactly that' (Interview CB2).

The role of the Environment Bank was key in the manufacture of consent:

> 'The representative of the Environment Bank and an ecological adviser were writing the minutes of the meetings and they were focused on the consensus stuff and were really trying to make out from the minutes that there was an agreement even on areas where we completely disagreed. Many of us said 'where did you get this notion that this was agreed? Have you got any quotes on this?' He said he didn't want it to turn

556 into who said what. [...] So by the end of his report which he had to produce for the
557 inspector we had a document that virtually was his opinion' (Interview LH3).
558
559 In other cases, offsetting was used as stratagem to shift discussion from the impacts
560 and scope of controversial urban development projects to the narrower question of
561 appropriate compensation, in an attempt to foreclose and depoliticize public debate
562 (c.f. Apostolopoulou and Adams, 2017, Spash, 2015):
563 'In North East England the population is declining but the planners still want to build
564 more houses rather like nesting boxes to attract people in […] We had three
565 speculative planning applications from three different developers, these were not
566 aimed at providing houses for those people who need them but 'executive'
567 homes/villas, you see social housing is out of the question these days. These are the
568 concerns of the local population but these questions were never seriously addressed;
569 instead we caught up in endless technical disputes about offsetting calculations'
570 (Interview LA5).
571 &
572 '…when offsetting was put on the table, the discussion suddenly shifted from how to
573 avoid the extensive biodiversity impacts on how we'll find the ideal offset. This
574 alerted us to the role they had in mind for offsetting; this wasn't a railway, there was
575 no overriding public interest or any other serious reason for not locating it somewhere
576 else but the idea that we would end up with a 'net gain' of biodiversity changed the
577 rules of the game: this wasn't an environmentally destructive project any more but a
578 blessing for our degraded countryside' (Interview NT2).
579
580 The highly technical character of discussions further disempowered many
581 communities who lacked the expertise and money to challenge the offset calculations
582 from consultants working for the developers. Some received help *pro bono* (e.g. in

North Tyneside, where local activists were helped by a Professor of Law from the University of Newcastle). Others were less fortunate or even found themselves completely excluded from negotiations in which consultants and other unelected and unaccountable commercial actors (Apostolopoulou et al., 2014) like the Environment Bank had been given a prominent role:

> 'We now have to deal with confidential commercial transactions over land for the creation of offsets. Negotiations were taking place between the Environment Bank and landowners and we were kept in the dark – even members of the pilot steering committee were kept in the dark. We never really know what was happening' (Interview ES1).
>
> &
>
> 'We started to meet regularly with the local authority, the developer, the consultants, and the Environment Bank. What was missing was any representation from the local residents despite -or maybe due to!- their strong opposition' (Interview ENGO4).

This exclusion of local people echoes Swyngedouw's et al. (2002) observation that neoliberal urban policies and their selective 'middle- and upper-class' democracy are mostly associated with elite-driven priorities and an undermining of local democratic participation.

4.4. The uneven reterritorialization of nature-society relationships

A key feature of biodiversity offsetting for developers and the state was that the policy could potentially yield valuable net developable areas in desirable locations by favoring offsite mitigation. The results of this varied in practice. In some cases, offset sites have been selected to facilitate the concentration of areas for conservation and urban development deepening a rural/urban divide. Thus sites close to already

existing protected areas, areas of high nature value, or just places away from heavily urbanized areas, were given priority:

> 'If there's an offset over the road, brilliant, but if not, this could mean that all of the green space within London will have to be pushed out to the edges' (Interview CE4).

Moreover, under a rhetoric of providing compensation 'for nature and not for people' (Interview CA3), and guided by the imperative to avoid costly choices and thus places which would require intensive management to keep their biodiversity targets, there was a clear preference for sites where public access would be either forbidden or restricted:

> 'A community park would have been a great idea for the offset site but we couldn't bear the cost for its maintenance or the risks from a misuse of the park from its visitors' (Interview CE5).

The case of North Tyneside offers a characteristic example of the outcomes of such choices. Even though the new 'executive' houses would destroy one of the last green spaces in a highly urbanized area, the developer proposed to locate the offset site three miles from the development site, in an area which was in proximity to a Northumberland Wildlife Trust reserve, and which the developer already owned. The offsetting report suggested that accessing the site itself would be restricted with barriers such as ditches and hedge banks:

> 'They probably said "well we can do a swap, we can drive out biodiversity in this area and we'll set up something in the middle of Northumberland" – you know the site is not in North Tyneside and is not accessible. You see that's the whole point, city people have a right to enjoy biodiversity on their doorstep, without having to drive into the middle of nowhere' (Interview NT3).

A similar logic prevailed at Lodge Hill, where one of the key arguments of the developer's ecologists for locating the offset in Shoeburyness/Foulness in Essex (more than 100 miles from Lodge Hill, adjacent to Natura 2000 and Ramsar sites of the Crouch and Roach Estuaries and Foulness Coast) was the area's ownership by the Ministry of Defense, which would prevent 'public disturbance':

> '…one of the beauties of that site from a conservation point of view is, number one it is an island, number two is an island owned and protected by the Ministry of Defense so there is no right of public access at all which means that any nightingale compensation that we provide would be completely secured. Not subject to any disturbance' (Interview CE3).
>
> &
>
> 'The local population should understand that we are not providing compensation for them, we are providing it for the birds' (Interview CE6).

This was not the only occasion where offsetting's proponents adopted a strict division between 'nature' and 'people'. As a conservation broker argued, incorporating the social, historical or cultural significance of a site would 'skew' the biodiversity 'portion' of the metric:

> 'Although the human aspect is important, we're actually not dealing with that at the moment, we are dealing with habitats and nature. Hopefully all offsets will be within the same local authority borough so we won't be removing people but this will be a secondary level of decision-making' (Interview CB3).

Concerns that offsetting was disconnecting nature from local communities were also expressed by the Environmental Audit Committee and from local authorities employees with long experience in planning:

> ‘As offsetting has been played out in practice we have seen that it is the ecologist, the consultant or the broker that have the first role in deciding the location of the sites. They all are much more amenable to a site further away from the application site because there is no measurable political cost for them for ignoring local community demands’ (Interview LA2).

The way in which offsetting reproduced the asocial logic of market environmentalism to enable the relocation of non-human nature cut little ice with local activists who rejected the reductionist premises of offset calculations:

> ‘So the whole idea of offsetting is you can take it away to more suitable locations. But for example here our woodland is not just a bit of habitat, it’s an amenity. We use it, kids use it, walkers use it, it’s a real local amenity, a part of our life. So if offsetting were done elsewhere we’d obviously be losing our amenity’ (Interview HS2).

In the Coventry Gateway, the development proposal involved converting predominantly open countryside into an industrial site, resulting in the complete loss of natural habitat. The proposal was to offset existing ecosystems with a ‘country park’. As a member of the committee against the Gateway, explained:

> ‘The Green Belt is Green Belt. And what the applicant says is we are going to build a country park where local people can have access to, so that will be your gain, you get a country park out of it… but we cannot have birds in the country park because it’s going to be around the airport: they are going to put nets over the water bodies to stop birds going there, they are going to electrocute the fish on a regular basis so there is no food for the birds…but you can walk around and look at the flowers. […] You can say to the developer: “thank you for your offer for the country park, but we don’t want it. We want the countryside that surrounds us as it is”’ (Interview CG2).

Crucially, offsetting's rearrangement of nature to fit around the patterns of urban growth was not seen by local activists as politically or socially neutral but rather the opposite:

> 'Somebody having to get into a car to go and see wildlife it's not a sustainable solution; green places are good for your soul, they are the lungs of the city. Town planning was trying to address those issues and now it seems to be about how do we grow everything? What we see is that offsetting is trying to facilitate that. But the policy is not class neutral: the same time they take away the last green space from the local community they give villas with gardens to other social classes by creating executive homes' (Interview NT4).

The idea of offsetting at a national scale also raised questions of socio-spatial unevenness across the country since it would allow developers to locate offsets:

> 'where it is cheapest for them: development land in the South East is very expensive. Whereas mitigation might be cheaper in the North, for example. So we risk ending up with a very uneven result' (Interview CS1).

Importantly, the location of offsets did not always follow specific criteria but has been significantly influenced by competition over land and space and hence price:

> '…by talking to the landowners you automatically alert them to the fact that there is some interest for their land. As soon as the Environment Bank talked to the landowner about the proposed site he was interested, we were moving forward and then he found out that … (he mentions the developer) were involved and tripled the price' (Interview ENGO6).

At the worst, the search for an economically realistic option could 'just create wildlife sites somewhere randomly in the countryside' (Interview CS3):

> 'When the developer realized that the proposed site was very expensive they went and looked at somewhere else but they didn't tell anyone about it. They chose a site that we have never discussed about and which wasn't ideal from many aspects – it even had a railway. They did that because this site was already on the market so they knew how much it was going to cost' (Interview ENGO6).

4.5. Urban development as environmental improvement: a new 'win-win' rhetoric for neoliberal conservation and neoliberal urbanization

Many conservationists initially supported offsetting, seeing in it not only the opportunity to receive additional funding for conservation in the context of a post-2008 austerity agenda (Comerford et al., 2010) but also the possibility of gaining access to new land through the creation of habitat banks. In the influential *Making Space for Nature* Review, Lawton et al. (2010) argued that offsets required for separate small developments could be pooled into larger habitat blocks without imposing additional burdens on developers, while also funding conservation via the sale of credits to developers (see also England Biodiversity Group, 2011). Governmental documents drawing on the Review also introduced offsetting as a means to deliver a landscape-scale approach to conservation. However, for this to succeed, governmental officials argued that offsets had to be produced according to the needs of developers to provide compensation:

> '…it's important to get the supply and demand matched. You have to be careful to avoid having people going around and looking for an offset which doesn't exist. But equally not to encourage offset providers to be flooding the market with things that are not required' (Interview CA1).

Conservation brokers were even more explicit agreeing the clever thing to do is to build a clear alliance between development and conservation:

> 'If HS2 gives 300 million pounds for environmental compensation we could have an extraordinary wood planting scheme. Would it actually replace the Ancient Woodland that has been lost? No, not in my lifetime or in my grandchild's lifetime. But in 50 years time we could have a tremendous young wood growing in, and you see, for me, the counterfactual is that if you don't apply offsetting for HS2 is it going to prevent HS2 from being built? No! And finding the money to build huge national forests is actually a very exciting thing to do' (Interview CB2).

The desire to make offsetting a policy that conservationists would embrace was also obvious in the decision to locate many offsets near existing PAs. This would facilitate their management by environmental NGOs potentially gaining their consensus (for example the developer in North Tyneside promised to 'gift' the offset land to a conservation organization):

> 'The last couple of years have been some of the most difficult years in my career, because everything we'd worked very hard to gain has been sort of torn up and thrown away in their search for economic growth. This is what we felt with offsetting: they increasingly imply to us that if won't cooperate with developers then there will be no money for conservation' (Interview ENGO4).

A key part of the attempt to portray offsetting as environmentally friendly, improving inter alia the profile of the corporations that would implement it and practice their corporate social responsibility, was to prove that it was actually creating 'better nature' that the one that was being lost due to urbanization. The Thameslink

Programme (TLP) provides an indicative example of this. The railway route North-South across London affects habitats ranging from scrub-covered railway embankments within Greater London to wooded land in open countryside. Starting from the need to compensate for biodiversity losses, particularly in rural areas, the upgrade of the line ended up being considered as delivering 'a net gain of biodiversity' by 'upgrading' habitat of lower ecological value (in areas owned by Thameslink), by planting woodland on other sites. The company even suggested that it would 'bring nature back to London' and succeeded in making the offset on Streatham Common in Lambeth, South London[20], (where biodiversity loss in suburban areas would be compensated), part of a complementary pilot (Collingwood Environmental Planning Limited, 2014), to test, among other things, the possibility of finding offset sites within highly urbanized contexts to compensate for development in suburban areas. Similarly, in North Tyneside, offsetting was framed by the Environment Bank as a 'trade up', because the development site consisted of 'common' farmland, while the offset site would be restored to lowland meadow, a habitat expected to have higher biodiversity values, and thus be capable of delivering more credits (135.8) than needed (122.5) (Interviews CB1, CA2, ENGO6).

Following the same line of argument, offsetting officers and the local council in Warwickshire argued that the long-term goal was to make offsetting a funding mechanism for improving the 'Green Infrastructure' of the county, and even suggested that in the future most of the biodiversity enhancement of the county would come through biodiversity offsetting. One offsetting advocate said:

> 'If our plan for conservation banking works we will be creating 1000 hectares of low-flower meadow restoration in Warwickshire which is more than the environmental movement has ever done in any decade ever' (Interview CB2).

This notion received strong criticism from local activists:

> 'The local council effectively opened the gate to potential developers, saying that 'Ah, right, if that is the view of the county council, then that's the direction we will go with our application. If we do a biodiversity offsetting exercise we can tick the box and be good boys with the county council and all those support our planning application' (Interview CG3).

5. Discussion

Lefebvre's (1970) observation of urban areas exploding relentlessly beyond their boundaries, producing a highly uneven urban fabric that ceaselessly extends its borders across non-urban geographies, could have been written to describe the context within which biodiversity offsetting emerged in the UK. In the post-2008 period, the UK saw an expansion of urban development into the Green Belt and the wider countryside, triggering clashes between urbanization and environmental protection across the country. Within a context of prolonged austerity and by following a clearly neoliberal path, urban development has mainly served the interests of landowners and of the housing and infrastructure industry, and has often been forcefully opposed by local communities. The pressure for residential development in peri-urban and rural areas 'has transformed the rural environment on the periphery of many of Britain's cities into a battle ground' (Pacione, 2013: 61).

Biodiversity offsetting in the UK emerged within a context characterised by the entrenchment of neoliberal policies coupled with rampant urbanization and it was expected to facilitate urbanization, increase land availability for development and contribute in foreclosing discussion of the extent and impacts of urbanization. Despite governmental intentions, in practice, outcomes varied: offsetting in some cases failed

818 to stimulate or facilitate development and growth while in other cases it succeeded
819 (and still does, see Environment Bank, 2016b). The expectations of its proponents that
820 offsetting would unconditionally facilitate development are confirmed by the cases
821 we documented where developers who had previously embraced offsetting,
822 abandoned the idea once it became clear that offsets would be prohibitively expensive
823 or difficult to find.
824
825 Even though a market in biodiversity has not yet been established in the UK, the
826 discourse of market environmentalism has strongly shaped the rhetoric of offsetting's
827 supporters, serving an important ideological and material role: to reframe non-human
828 nature in line with the needs of capital (Robertson, 2006, Sullivan 2013, Sullivan and
829 Hannis 2015), as a movable, interchangeable and asocial stock of biodiversity assets
830 which can be exchanged across space and time corroborating political ecology's
831 critique of market-based (or 'mainstream') conservation as being materially and
832 ideologically aligned with capitalism (Apostolopoulou and Adams, 2015, Igoe et al.,
833 2010, Neumann, 2015, Neves and Igoe, 2012). Moreover, the emphasis on 'No Net
834 Loss' and the choice of the word 'offsetting' were not coincidental. The term
835 deliberately portrays the social and eco-spatial rearrangement of non-human nature to
836 fit urban development, and the interests of the different sections of capital that pursue
837 it, as socially neutral and as potentially positive for nature. Offsetting seems to offer a
838 way in which the very processes that are responsible for biodiversity loss can become
839 the drivers of environmental improvement. So the loss of habitat under rail lines or
840 major residential developments across the UK can actually *improve* the position of
841 nature overall (Environment Bank, 2016b). The implications of this are profound.
842 Firstly, nature conservation is reconstituted as *development-led* (Hannis and Sullivan,

2012, Sullivan, 2013, Lockhart, 2016), since demand for and funding of offsets depends on environmentally harmful development. Secondly, ecosystem degradation caused by extended urbanization is now represented as a conservation opportunity (Apostolopoulou and Adams, 2017) implying that the best thing for conservation in the era of the 'Anthropocene' is to ally with major industries.

Biodiversity offsetting, therefore, seems to bring together a bundle of reactionary ideas about nature-society relationships. It deliberately frames nature as external to society and ignores both the importance of place and the profound socio-ecological transformations which urbanization involves by being based on an extreme reductionism which sees biodiversity as completely divorced from its context. In offsetting, nature is progressively produced as part of 'second nature' (Smith, 2010): representing non-human nature through simple numerical scores or priced credits enabled the reterritorialization of nature-society relationships in line with the patterns of an increasingly ecologically disruptive and socio-spatially uneven urban growth. As our case studies showed, this had profound implications for the involved socionatures: offsetting often deepened longstanding divisions between 'common' and 'unique' nature, protected and non-protected areas, and ultimately society and nature by favoring the creation of more 'net development' and more 'net conservation areas'. It also changed the ability of different social groups to access green space, separating them from nature where they live and work. Offsetting clearly ignored social and cultural ties between communities and places and it often led to a redistribution of areas of conservation value from urban to rural areas (see also Ruhl and Salzman, 2006), ultimately creating uneven outcomes environmentally, socially and spatially (Apostolopoulou and Adams, 2017; Seagle, 2012) echoing Smith's

868 observation that uneven development is the concrete process and pattern of the
869 production of non-human nature under capitalism (Smith, 2010). Biodiversity
870 offsetting is thus an indicative example of how neoliberal conservation policies
871 designed to address the environmental contradictions of capitalism further deepen
872 existing contradictions while also creating new ones.
873
874 Importantly, in England, biodiversity offsetting needs to be understood as the product
875 of an essentially urban policy, even where the land affected is outside existing urban
876 limits. The priority given to urbanization means that offsetting has involved the
877 production of nature in ways that primarily serve the interests of bid building
878 contractors, real estate and infrastructure companies. The consequent reworking of
879 nature reflects the way landlords and the different sections of capital govern the uses
880 of urban and rural space for profit (Smith, 2010) testifying the class character of the
881 policy. Offsetting acknowledged and respected the geographical specificity of
882 urbanization and the fact that the production of space and spatial monopolies are
883 integral to the dynamics of accumulation in the nature of the created and produced
884 spaces and places over which commodity flows occur (Harvey, 2012: 42). It has not
885 respected the geographical specificity of non-human nature and nature-society
886 relationships. The urbanization of the rural in England is thus tightly interwoven with
887 corporate interests. It also reflects a consumerist approach to nature as a destination
888 for weekends and countryside leisure, and a frame for leafy, sprawling, suburbs (as
889 Lefebvre 1970, 1991 has long ago observed).
890
891 However, offsetting's limited acceptance in most of our case studies shows that
892 'actually existing' neoliberal conservation does not emerge in laboratory conditions

893 but have to confront political, social and environmental realities that are often
894 uncooperative. Indeed, the uneven outcomes of the production of nature out of
895 capitalist relationships, both through neoliberal urbanization and neoliberal
896 conservation, have met strong social opposition. This shows that as urbanization in
897 the UK extends beyond the limits of cities into areas that were part of the Green Belt
898 and the wider countryside transforming the landscape, struggles for the 'right to the
899 city', also expand beyond the limits of the traditional city.
900
901 Lefebvre predicted in *La révolution urbaine* (1970) that due to urbanization, the clear
902 distinction between the urban and the rural is gradually fading into a set of porous
903 spaces of uneven geographical development, under the hegemonic command of
904 capital and the state (Harvey, 2008). Therefore, the right to the city for Lefebvre had
905 to mean the right to command the whole urban process (even the production of
906 space), which was increasingly dominating the countryside (Lefebvre, 1996).
907 Crucially, as urbanization increasingly impacts on natural areas, it brings to the
908 forefront environmental struggles over the quality of everyday life and access to green
909 spaces and ecosystems. Biodiversity offsetting can be seen as part of urbanization's
910 'creative destruction' (Brenner, 2013, Lefebvre, 1970) that dispossesses the public of
911 any right not only to the city (Harvey, 2008) but also to the production of space and
912 nature. The interplay of offsetting and urbanization in England leaves little room for
913 seeing nature as anything more than a good background for executive housing, as
914 carefully planned city parks, or as protected area museums where public access is
915 restricted polarizing humans and non-human nature into ever-more separate locations.
916 Our interviewees, fighting speculative development and the creation of new urban
917 enclaves, considered opposition to biodiversity offsetting a key part of their struggles

which by challenging the symbolic, material and social meanings of common urban and non-urban (green) spaces, seek to defend not only the 'right to the city' but also the 'right to nature'. This suggests that the right to influence and command the processes by which nature-society relationships are made, transformed and disrupted by urbanization (and economic development), is increasingly becoming a key element of struggles against capitalist urbanization (Brenner and Schmid, 2015) and thus an integral part of struggles for the right to the city.

We thus believe that the term 'right to nature' is crucial for the potential of the environmental movement and social struggles to challenge the extent of urbanization and neoliberal solutions to its increasing environmental impacts. This is of major political importance because it reveals that as biodiversity loss due to urbanization is increasingly related to the threatening of the quality of life of many local communities, the 'right to nature' (as defined in this paper) is increasingly becoming an issue of major social and political significance. Moreover, the idea of a 'right to nature' and to the 'production of nature' could provide the theoretical basis for a conservation that is not neoliberal (c.f. Büscher et al., 2012).

A political ecology that purposes to understand and transform uneven socio-ecological relations *qua* urbanisation, has to embrace the non-urban as constitutive of the urban, and understand how the former is related to the latter – and how struggles for the city and for nature in dense city cores and in seemingly 'remote' (rural or natural) areas (see Brenner and Schmid, 2015) are often interrelated. This has crucial implications for the political ecology of Global North. In the Marxist tradition, environmental and urban struggles are usually construed as being about issues of

943 reproduction rather than production, and therefore not about class, and thus dismissed
944 as devoid of revolutionary potential or significance (Harvey, 2012). Similarly, in the
945 neoliberal conservation literature, the emphasis often rests on protected natures or
946 areas of high nature value and environmental struggles in the Global South. However,
947 given that urbanization is crucial in the history of capital accumulation, then political
948 and class struggles, no matter whether they are explicitly recognized as such, are
949 inevitably involved (Harvey, 2012, Lefebvre, 1970) and thus the question of whose
950 nature is or becomes urbanized, must be at the forefront of any radical political action
951 (Heynen et al, 2005). As urbanization extends beyond cities in association with
952 policies like biodiversity offsetting which aim to rescript natures as placeless, these
953 struggles will increasingly involve environmental aspects. An important strategic
954 political question that reaches well beyond our discussion here, is therefore: to what
955 degree should anti-capitalistic struggles explicitly focus and organize on the broad
956 terrain of the right to the production of nature as well as space?
957
958 **References**
959 Adams, W.M., Hodge, I.D., Sandbrook, L., 2014. New spaces for nature: the re-
960 territorialisation of biodiversity conservation under neoliberalism in the UK.
961 Transactions of the Institute of British Geographers 39, 574-588.
962 Allmendinger, P., Haughton, G., 2013. The evolution and trajectories of English
963 spatial governance: 'Neoliberal'episodes in planning. Planning Practice &
964 Research 28, 6-26.
965 Angelo, H., Wachsmuth, D., 2015. Urbanizing urban political ecology: a critique of
966 methodological citycism. International Journal of Urban and Regional
967 Research 39, 16-27.

968 Apostolopoulou, E., 2016. Biodiversity offsetting in England: governance rescaling,
969 socio-spatial injustices, and the neoliberalization of nature. Web Ecology 16
970 (1), 67-71.
971 Apostolopoulou, E., Adams, W., 2015. Neoliberal capitalism and conservation in the
972 post-crisis era: the dialectics of 'green' and 'un-green' grabbing in Greece and
973 the UK. Antipode 47, 15-35.
974 Apostolopoulou, E., Adams, W., 2017. Biodiversity offsetting and conservation:
975 reframing nature to save it? Oryx DOI:
976 https://doi.org/10.1017/S0030605315000782.
977 Apostolopoulou, E., Bormpoudakis, D., Paloniemi, R., Cent, J., Grodzińska-Jurczak,
978 M., Pietrzyk-Kaszyńska, A., Pantis, J.D., 2014. Governance rescaling and the
979 neoliberalization of nature: the case of biodiversity conservation in four EU
980 countries. International Journal of Sustainable Development & World Ecology
981 21, 481-494.
982 Arboleda, M., 2016. In the Nature of the Non-City: Expanded Infrastructural
983 Networks and the Political Ecology of Planetary Urbanisation. Antipode 48
984 (2), 233-251.
985 Bayon, R., Fox, J., Carroll, N., 2008. Conservation and Biodiversity Banking: A
986 Guide to Setting Up and Running biodiversity credit trading systems.
987 Earthscan, UK and USA.
988 BBOP (Business and Biodiversity Offsets Programme), 2009. Biodiversity Offset
989 Design Handbook. BBOP, Washington D.C.
990 Brenner, N., 2013. Theses on urbanization. Public Culture 25 (1), 85-114.
991 Brenner, N., Schmid, C., 2015. Towards a new epistemology of the urban? City 19,
992 151-182.

993 Brenner, N., Theodore, N., 2002. Cities and the geographies of "actually existing
994 neoliberalism". Antipode 34 (3), 349-379.
995 Büscher, B., Sullivan, S., Neves, K., Igoe, J., Brockington, D., 2012. Towards a
996 synthesized critique of neoliberal biodiversity conservation. Capitalism Nature
997 Socialism 23, 4-29.
998 Cahill, D., 2011. Beyond neoliberalism? Crisis and the prospects for progressive
999 alternatives. New Political Science 33(4), 479-492.
1000 Carver, L. 2015. Measuring the value of what? LCSV working paper series No. 11.
1001 The Leverhulme Centre for the Study of Value, School of Environment,
1002 Education and Development, The University of Manchester.
1003 Castree, N., 2008. Neoliberalising nature: The logics of deregulation and reregulation.
1004 Environment and Planning A 40, 131-152.
1005 Collingwood Environmental Planning Limited. 2014. Evaluation of the Biodiversity
1006 Offsetting Pilot Programme. Defra project code: WC 1051. Appendix 1 -
1007 Summary of the Complementary Projects. Collingwood Environmental
1008 Planning Limited in partnership with The Institute for European
1009 Environmental Policy (IEEP).
1010 Comerford, E., Molloy, D., Morling, P., 2010. Financing nature in an age of austerity.
1011 RSPB. Available at: https://www.rspb.org.uk/Images/Financingnature_tcm9-
1012 262166.pdf.
1013 Conservative Party, 2010. Open Source Planning. Conservative Green Paper no.14.
1014 Conservative Party, London.
1015 Corson, C., MacDonald, K. I., Neimark, B., 2013. Grabbing green: markets,
1016 environmental governance and the materialization of natural capital. Human
1017 Geography 6, 1-15.

1018 Cowell, R., 2013. The greenest government ever? Planning and sustainability in
1019 England after the May 2010 elections. Planning Practice & Research 28, 27-
1020 44.
1021 Defra, 2007. Conserving Biodiversity – the UK Approach. Defra, London.
1022 Defra, 2011. The Natural Environment White Paper: the natural choice. Securing the
1023 value of nature.
1024 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/
1025 228842/8082.pdf. Accessed 14 December 2016.
1026 Defra, 2013. Biodiversity offsetting in England: Green Paper.
1027 https://consult.defra.gov.uk/biodiversity/biodiversity_offsetting/supporting_do
1028 cuments/ Accessed 14 December 2016.
1029 Duke, G., Conway, M., Dickie, I., Juniper, T., Quick, T., Rayment, M., Smith, S.,
1030 2013. EMTF Second Phase Research: Opportunities for UK Business that
1031 Protect and/or Value Nature. Final Report. ICF GHK, London.
1032 EMTF (Ecosystem Markets Task Force), 2013. Realising nature's value: The Final
1033 Report of the Ecosystem Markets Task Force (No. PB13895). Ecosystem
1034 Markets Task Force, London. http://www.defra.gov.uk/ecosystem-
1035 markets/files/Ecosystem-Markets-Task-Force-Final-Report-.pdf. Accessed 14
1036 December 2016.
1037 England Biodiversity Group, 2011. ThinkBIG: How and why landscape-scale
1038 conservation benefits wildlife, people and the wider economy.
1039 http://publications.naturalengland.org.uk/publication/30047. Accessed 14
1040 December 2016.

1041 Environment Bank, 2012. The Environment Bank Newsletter Spring 2012.
1042 http://www.environmentbank.com/news/post.php?s=2012-04-09-the-
1043 environment-bank-newsletter-spring-2012. Accessed 14 December 2016.
1044 Environment Bank, 2014. Biodiversity Offsetting Information sheet 4 February 2014,
1045 Guidance for developers.
1046 Environment Bank, 2016a. Guidance for developers. Information sheet 4 March 2016.
1047 http://www.environmentbank.com/files/4-guidance-for-developers.pdf.
1048 Accessed 14 December 2016.
1049 Environment Bank, 2016b. Case study: Major residential development.
1050 http://www.environmentbank.com/news/post.php?s=2016-11-01-case-study-
1051 major-residential-development. Accessed 14 December 2016.
1052 Featherstone, D., Ince, A., Mackinnon, D., Strauss, K, Cumbers, A., 2012.
1053 Progressive localism and the construction of political alternatives.
1054 Transactions of the Institute of British Geographers 37, 177-182.
1055 Flyberg, B., 2003. Megaprojects and Risk. Cambridge University Press, Cambridge.
1056 Foster, J.B., 1999. Marx's Theory of Metabolic Rift: Classical Foundations for
1057 Environmental Sociology. The American Journal of Sociology 105, 346-405.
1058 Geddes, M., 2012. A rich man's plaything. Red Pepper June/July, 22-24.
1059 Hannis, M., Sullivan, S., 2012. Offsetting nature? Habitat banking and biodiversity
1060 offsets in the English Land Use Planning System. Green House, UK.
1061 Harvey, D., 1996a. Cities or urbanization? City 1, 38-61.
1062 Harvey, D., 1996b. Justice, Nature, and the Geography of Difference. Blackwell,
1063 Oxford.
1064 Harvey, D., 2005. A brief history of neoliberalism. Oxford University Press.
1065 Harvey, D., 2008. The right to the city. New Left Review 53, 23-40.

1066 Harvey, D., 2011. Roepke lecture in economic geography—Crises, geographic
1067 disruptions and the uneven development of political responses. Economic
1068 Geography 87 (1), 1-22.
1069 Harvey, D., 2012. Rebel Cities: From the Right to the City to the Urban Revolution.
1070 Verso Books, London and New York.
1071 Heynen, N., 2013. Urban political ecology I: The urban century. Progress in Human
1072 Geography DOI: 10.1177/0309132513500443.
1073 Heynen, N., Kaika, M., Swyngedouw, E., 2005. In the nature of cities – the politics of
1074 urban metabolism. Routledge, London.
1075 Hildyard, N., 2012. More than bricks and mortar. Infrastructure as-asset-class:
1076 Financing development or developing finance? The Corner House.
1077 HM Government, 2010. The Coalition: Our Programme for Government. Cabinet
1078 Office, London.
1079 HM Government, 2013. Biodiversity offsetting. Impact Assessment. IA No: Defra
1080 1126.
1081 Hodkinson, S., Robbins, G., 2013. The return of class war conservatism? Housing
1082 under the UK coalition government. Critical Social Policy 33(1), 57-77.
1083 Hoggart, K., 1995. Let's do away with the rural. Journal of Rural Studies 6, 245-257.
1084 Igoe, J., Neves, K., Brockington, D., 2010. A spectacular eco-tour around the historic
1085 bloc: Theorising the convergence of biodiversity conservation and capitalist
1086 expansion. Antipode 42 (3), 486-512
1087 Institute for Fiscal Studies (IFS), 2010. New IFS research challenges Chancellor's
1088 "progressive Budget" claim'. IFS Press Release.

1089 Katz, C., 1998. Whose nature, whose culture?: private productions of space and the
1090 'preservation' of nature. In: Braun, B., Castree, N. (Eds.) Remaking reality.
1091 Nature at the millennium. Routledge, London and New York, pp. 45-62.
1092 Latimer, W., Hill, D., 2007. Mitigation banking: Securing no net loss to biodiversity?
1093 A UK perspective. Planning, Practice & Research 22 (2), 155-175.
1094 Lawton, J., Brotherton, P., Brown, V., Elphick, C., Fitter, A., Forshaw, J., Haddow,
1095 R., Hilborne, S., Leafe, R., Mace, G., Southgate, M., Sutherland, W., Tew, T.,
1096 Varley, J., Wynne, G., 2010. Making Space for Nature: A review of England's
1097 Wildlife Sites and Ecological Network. Report to the Department for
1098 Environment, Food and Rural Affairs.
1099 Lefebvre, H., 1968. Le Droit à la Ville. Anthropos, Paris.
1100 Lefebvre, H., 1970. La révolution urbaine (Vol. 216). Gallimard, Paris.
1101 Lefebvre, H., 1991. The production of space. Blackwell, Oxford.
1102 Lefebvre, H., 1996. Writings on cities (Vol. 63, No. 2). Blackwell, Oxford.
1103 Leitner, H., Peck, J., Sheppard, E.S., 2007. Contesting neoliberalism: Urban frontiers.
1104 The Guilford Press, New York, London.
1105 Lockhart, A., 2015. Developing an offsetting programme: tensions, dilemmas and
1106 difficulties in biodiversity market-making in England. Environmental
1107 Conservation 42, 335-344.
1108 Lockhart, A., 2016. The geographies of biodiversity offsets in England and the limits
1109 of neoliberal conservation. Paper presented at the International Conference
1110 'Political Ecologies of Conflict, Capitalism and Contestation (PE-3C)',
1111 Wageningen, The Netherlands.
1112 Loftus, A., 2012. Everyday Environmentalism: Creating an Urban Political Ecology.
1113 University of Minnesota Press, Minneapolis.

1114 Maclennan, D., O'Sullivan, A., 2013. Localism, devolution and housing policies
1115 Housing Studies 28, 599-615.
1116 Marx, K., 1894. Capital. A critique of political economy. Volume III. International
1117 Publishers, New York. https://www.marxists.org/archive/marx/works/1894-
1118 c3/. Accessed 15 December 2016.
1119 Matless, D.S. 1998. Landscape and Englishness. Reaktion Books, London.
1120 Neumann, R.P., 2015. Nature Conservation. In: Perreault, T., Bridge, G., McCarthy,
1121 J. (Eds.) The Routledge Handbook of Political Ecology. Routledge, London
1122 and New York, pp. 391-405.
1123 Neves, K., Igoe, J., 2012. Uneven development and accumulation by dispossession in
1124 nature conservation: comparing recent trends in the Azores and Tanzania.
1125 Tijdschrift voor Economische en Sociale Geografie 103 (2), 164-179.
1126 NPPF, 2012. National Planning Policy Framework. Department for Communities and
1127 Local Government, London.
1128 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/
1129 6077/2116950.pdf. Accessed 14 December 2016.
1130 Pacione, M., 2013. Private profit, public interest and land use planning-A conflict
1131 interpretation of residential development pressure in Glasgow's rural–urban
1132 fringe. Land Use Policy 32, 61-77.
1133 Peck, J., Theodore, N., Brenner, N., 2012. Neoliberalism resurgent? Market rule after
1134 the Great Recession. South Atlantic Quarterly 111 (2), 265-288.
1135 Purcell, M., 2002. Excavating Lefebvre: The right to the city and its urban politics of
1136 the inhabitant. GeoJournal 58 (2-3), 99-108.

1137 Robertson, M., 2006. The nature that capital can see: science, state, and market in the
1138 commodification of ecosystem services. Environment and Planning D: Society
1139 and Space 24, 367-387.
1140 Ruhl, J.B., Salzman, J.E., 2006. The Effects of Wetland Mitigation Banking on
1141 People. FSU College of Law, Public Law Research Paper No. 179.
1142 http://ssrn.com/abstract=878331. Accessed 14 December 2016.
1143 Seagle, C., 2012. Inverting the impacts: Mining, conservation and sustainability
1144 claims near the Rio Tinto/QMM ilmenite mine in Southeast Madagascar.
1145 Journal of Peasant Studies 39, 447-477.
1146 Sheail, J. 1981. Rural Conservation in Inter-War Britain. Oxford University Press,
1147 Oxford.
1148 Smith, N., 2005. Foreword. In: Heynen, N., Kaika, M., Swyngedouw, E. (Eds.) In the
1149 Nature of Cities: Urban Political Ecology and the Politics of Urban
1150 Metabolism. Routledge, Abingdon, pp. xi–xv.
1151 Smith, N., 2010. Uneven Development (3rd edn). Verso, New York.
1152 Spash, C.L., 2015. Bulldozing biodiversity: The economics of offsets and trading-in
1153 Nature. Biological Conservation 192, 541-551.
1154 Sullivan, S., 2013. After the green rush? Biodiversity offsets, uranium power and the
1155 'calculus of casualties' in greening growth. Human Geography 6, 80-120.
1156 Sullivan, S., Hannis, M., 2015. Nets and frames, losses and gains: value struggles in
1157 engagements with biodiversity offsetting policy in England. Ecosystem
1158 Services 15, 162-173.
1159 Swyngedouw, E., 1996. The city as a hybrid: on nature, society and cyborg
1160 urbanization. Capitalism Nature Socialism 7 (2), 65-80.

Swyngedouw, E., 2015. Urbanization and Environmental Futures: Politicizing Urban Political Ecologies. In: Perreault, T., Bridge, G., McCarthy, J. (Eds.) Handbook of Political Ecology. Routledge, London and New York, pp. 609-619.

Swyngedouw, E., Moulaert, F., Rodriguez, A., 2002. Neoliberal urbanization in Europe: large–scale urban development projects and the new urban policy. Antipode 34 (3), 542-577.

Ten Kate, K., Bishop, J., Bayon, R. 2004. Biodiversity Offsets: Views, Experience, and the Business Case. IUCN, Gland, Switzerland, and Cambridge, UK, and Insight Investment, London, UK.

Treweek, J. et al., 2009. Scoping study for the design and use of biodiversity offsets in an English Context. Final report to Defra (Contract NE 0801).

Urry, J. 1995. Consuming Places. Routledge, London.

Endnotes

[1] In 2010 a Labour administration was replaced by a coalition between the Conservative and Liberal-Democrat Parties.

[2] https://www.gov.uk/government/publications/2010-to-2015-government-policy-house-building/2010-to-2015-government-policy-house-building#background

[3] https://www.gov.uk/government/news/government-going-further-to-cut-red-tape-by-10-billion

[4] Megaprojects are commonly understood to be projects that cost at least a billion dollars.

[5] In common with other aspects of environmental policy, government approaches to offsetting differs across England, Wales, Scotland and Northern Ireland within a standard neoliberal frame established by the UK government. This paper addresses offsetting policy within England, where it was developed earliest and most extensively.

[6] https://www.gov.uk/government/collections/biodiversity-offsetting

[7] https://www.theguardian.com/environment/2013/nov/12/biodiversity-offsetting-license-trash-nature;
https://www.theguardian.com/environment/georgemonbiot/2012/dec/07/biodiversity-offsetting-unleash-wildlife-destruction

[8] http://www.telegraph.co.uk/news/uknews/road-and-rail-transport/10158697/Minister-digs-in-to-replace-ancient-woods-lost-to-HS2.html;
http://www.theguardian.com/environment/2014/sep/25/-sp-nightingales-lodge-hill-sanctuary-conservation-britain)

[9] https://www.statista.com/statistics/270369/urbanization-in-the-united-kingdom/

[10] Brenner (2013, p. 96) refers to 'extended' urbanization, as encompassing the processes of sociospatial and socioenvironmental transformation that facilitate and result from urban development across places, territories, and scales.

[11] http://www.environmentbank.com/about.php

[12] http://www.environmentbank.com/docs/Environment-Bank-Newsletter-SpringSummer-2010.pdf

[13] http://www.shellfoundation.org/Our-Focus/Partner-Profiles/Environment-Bank/Summary

[14] https://www.gov.uk/government/news/prime-minister-councils-must-deliver-local-plans-for-new-homes-by-2017

[15] The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open (see NPPF, 2012, p. 19).

[16] http://www.cpre.org.uk/magazine/opinion/item/3845

[17] http://www.ciwem.org/wp-content/uploads/2016/04/Environmental-Audit-Committee-Biodiversity-offsetting.pdf

[18] http://www.essexbiodiversity.org.uk/planning-and-development/nppf

[19] http://planningguidance.communities.gov.uk/blog/guidance/local-plans/local-plans-key-issues/

[20] http://streathamcommon.org/new-trees-common/;

https://environmentonsite.com/39653/questions-raised-over-streatham-common-offsetting-project

Highlights

- Biodiversity offsetting relates to UK government's urban development aspirations
- Offsetting enables a social and spatial reterritorialization of socionatures
- Offsetting portrays urban development as the driver of environmental improvement
- Biodiversity offsetting in England is widely contested by local communities
- Struggles for the 'right to the city' should expand to embrace 'rights to nature'

Table 1

Table 1. Background information on the seven case studies.

Case study	Basic information	Civil society Groups
Essex biodiversity offsetting pilot	Chosen as one of the 2012-2014 six national pilot areas to trial biodiversity offsetting. Various housing developments in the area.	Residents participating in 'Hands off Thaxted' group.
Warwickshire, Coventry and Solihull biodiversity offsetting pilot	One of the six Defra national pilot areas to trial biodiversity offsetting. One of the most advanced and pro-offsetting pilots.	Local community groups against the Coventry Warwickshire Gateway.
Lodge Hill housing development	Development of 5,000 houses, retail centre, and related amenities (education, health, sports areas, open spaces and 5,000 new jobs).	Local community groups opposed to the Lodge Hill housing development.
High speed rail network	Phase 1 (London-West Midlands) of	STOP HS2 and local authorities

(HS2)	High Speed 2 (HS2), railway. The route covers both urban and rural localities.	participating in 51m.
North Tyneside housing development (NE England)	Development of 366 executive houses, ancillary commercial unit and landscaping.	The ‘Save Gosforth Wildlife Campaign’ and the West Moor Residents Association.
Thameslink project	The route runs from Bedford in the North to Brighton in the South through Central London. It covers both urban and rural localities.	Local community groups in Lambeth.
Coventry and Warwickshire Gateway	Commercial development scheme around Coventry airport.	Local community groups opposed to the Coventry Warwickshire Gateway.

Table 2

Table 2. The Defra Biodiversity Offsetting Metric (Defra, 2013).

Value of 1 ha in 'biodiversity units'		Habitat distinctiveness		
		Low (2)	Medium (4)	High (6)
Habitat quality	Good (3)	6	12	18
	Moderate (2)	4	8	12
	Poor (1)	2	4	6

Appendix 1: Categories of interviewees and corresponding interview codes.

Category of Interviewees	Interview Code
Conservation brokers	CB
Conservation scientists	CS
Environmental NGOs	ENGO
Consultants (ecologists)	CE
Central administration	CA
Local authorities	LA
Local community groups opposing the Coventry Warwickshire Gateway	CG
Local community groups opposing the Lodge Hill housing development	LH
Activists and local community groups participating in STOP HS2	HS
Local community groups opposing the North Tyneside housing development	NT
Residents participating in 'Hands off Thaxted' group in Essex	ES

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